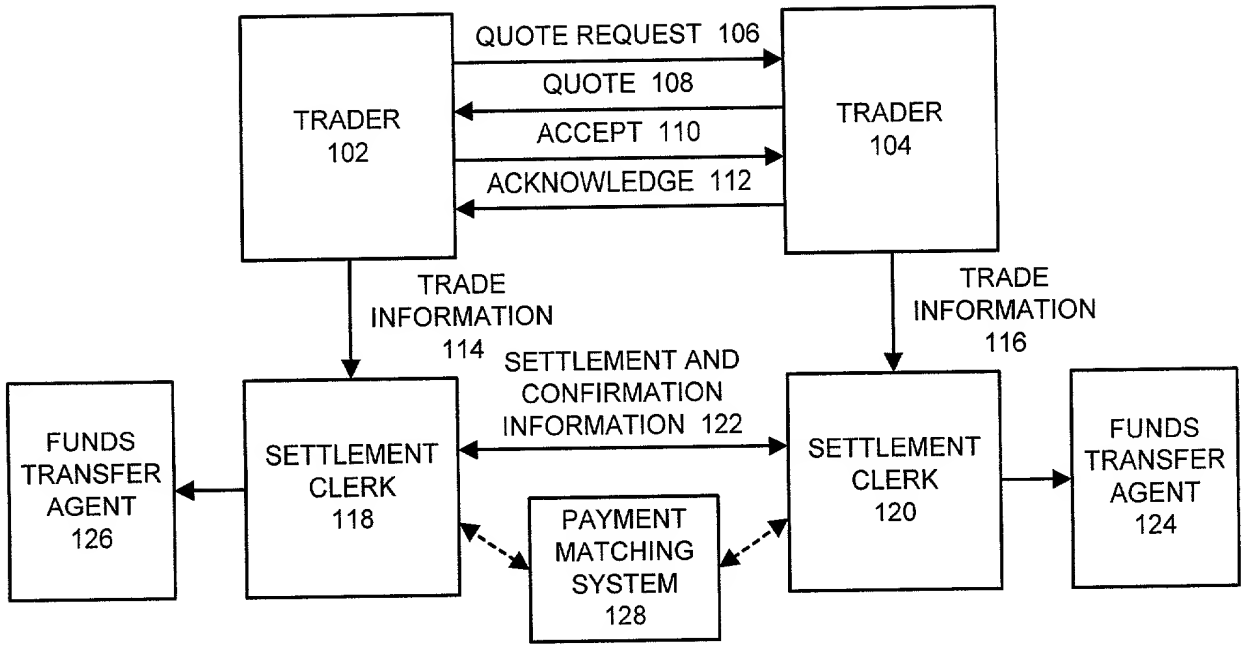

FIG. 1
(PRIOR ART)

Patent Application

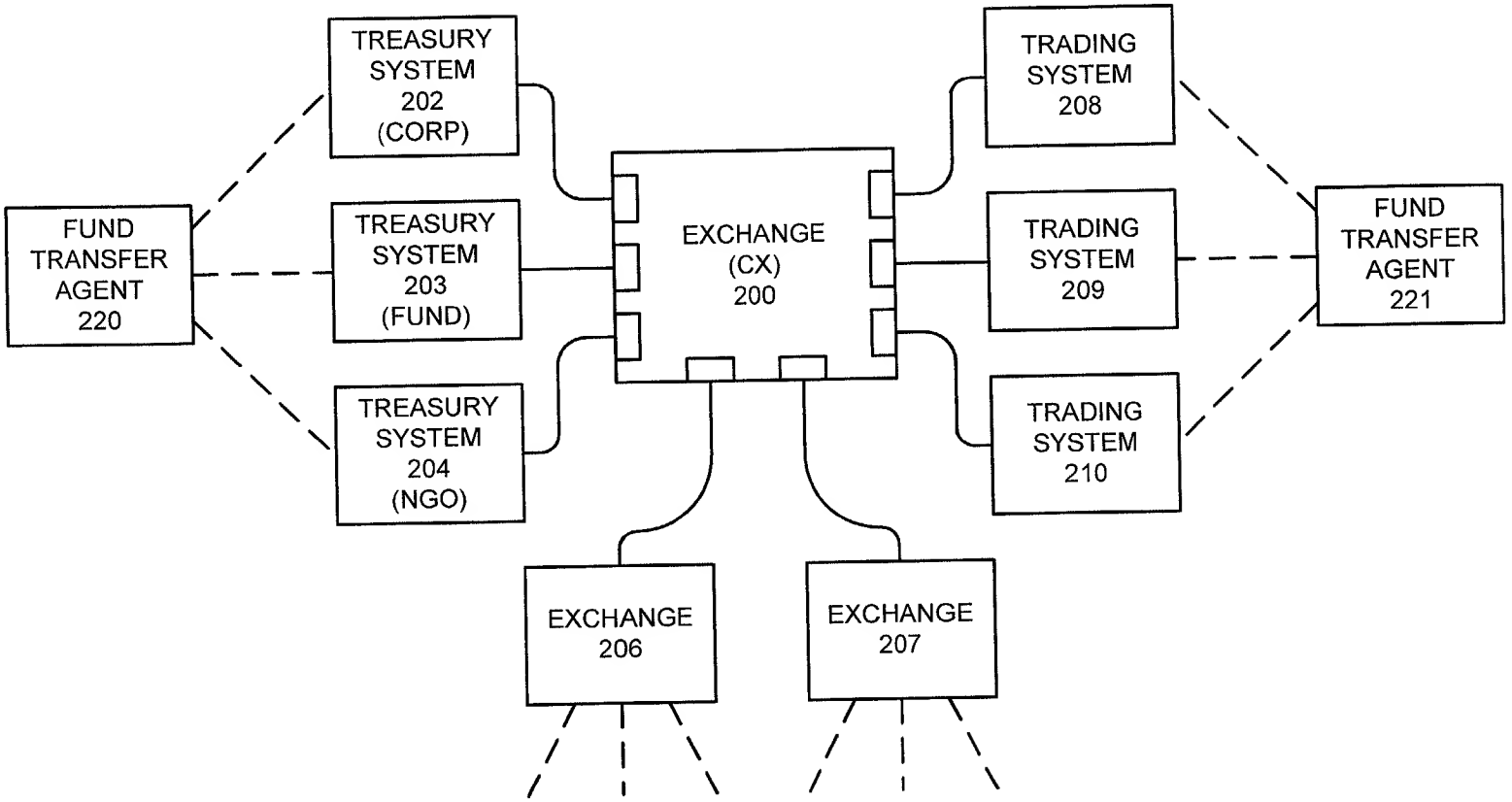

FIG. 2

Tomson Reuters

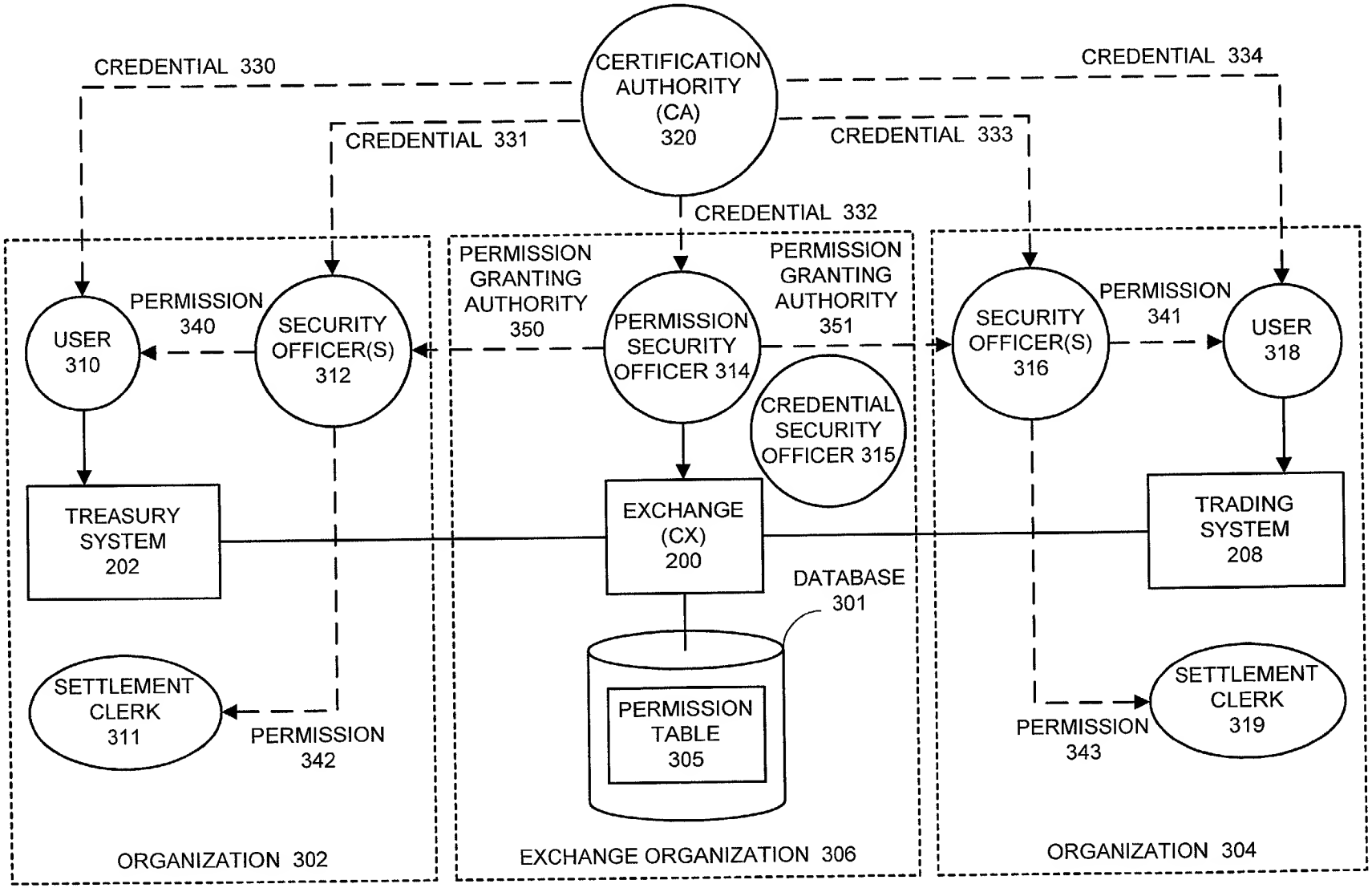

FIG. 3

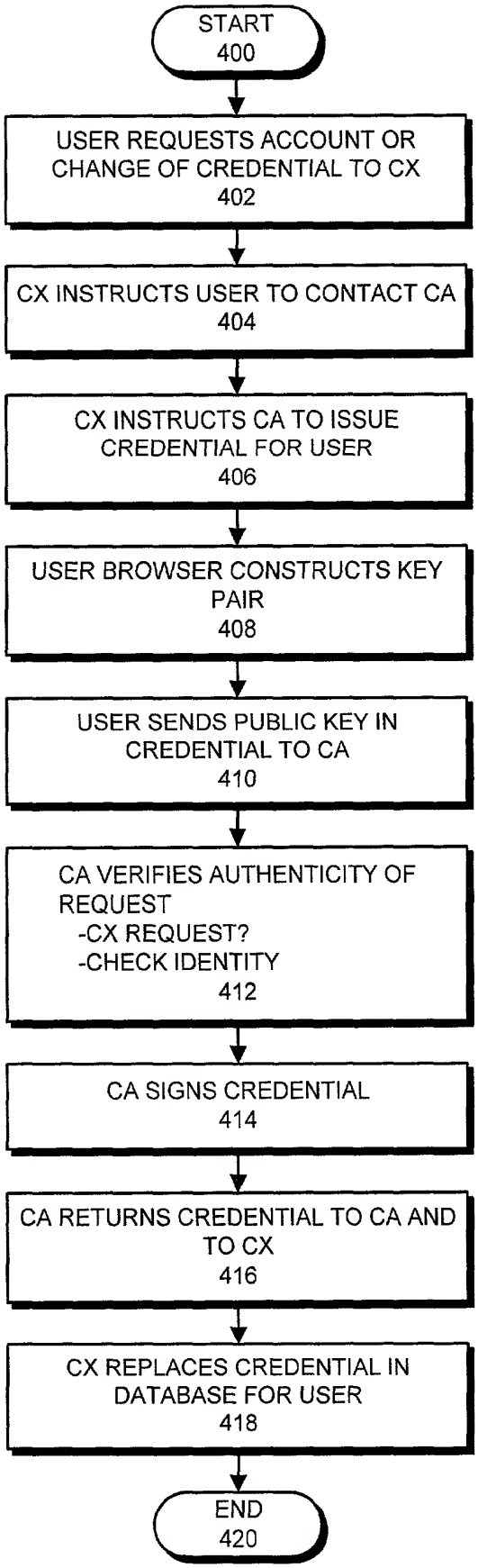
START
400
USER REQUESTS ACCOUNT OR CHANGE OF CREDENTIAL TO CX
402
CX INSTRUCTS USER TO CONTACT CA
404
CX INSTRUCTS CA TO ISSUE CREDENTIAL FOR USER
406
USER BROWSER CONSTRUCTS KEY PAIR
408
USER SENDS PUBLIC KEY IN CREDENTIAL TO CA
410
CA VERIFIES AUTHENTICITY OF REQUEST
-CX REQUEST?
-CHECK IDENTITY
412
CA SIGNS CREDENTIAL
414
CA RETURNS CREDENTIAL TO CA AND TO CX
416
CX REPLACES CREDENTIAL IN DATABASE FOR USER
418
END
420

FIG. 4

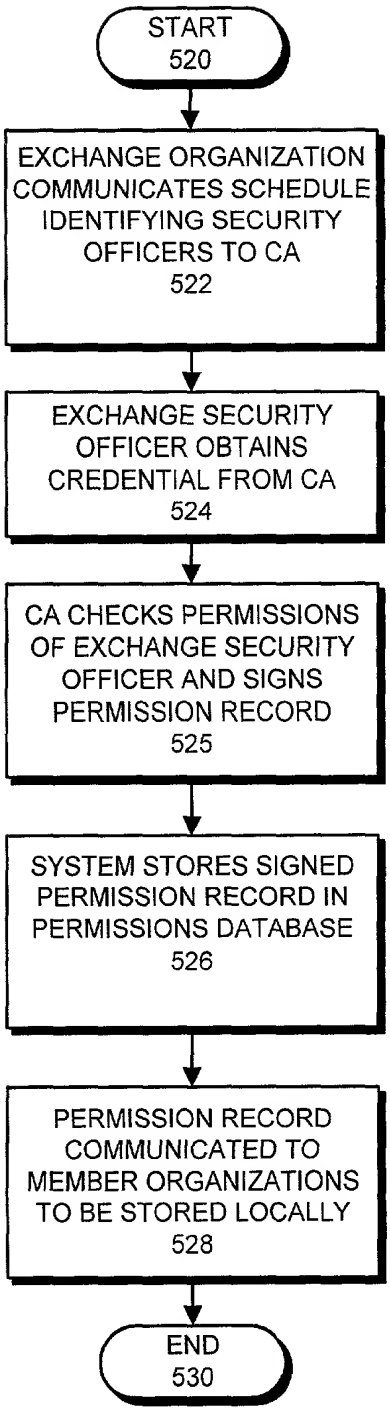
START
520
EXCHANGE ORGANIZATION COMMUNICATES SCHEDULE IDENTIFYING SECURITY OFFICERS TO CA
522
EXCHANGE SECURITY OFFICER OBTAINS CREDENTIAL FROM CA
524
CA CHECKS PERMISSIONS OF EXCHANGE SECURITY OFFICER AND SIGNS PERMISSION RECORD
525
SYSTEM STORES SIGNED PERMISSION RECORD IN PERMISSIONS DATABASE
526
PERMISSION RECORD COMMUNICATED TO MEMBER ORGANIZATIONS TO BE STORED LOCALLY
528
END
530

FIG. 5A

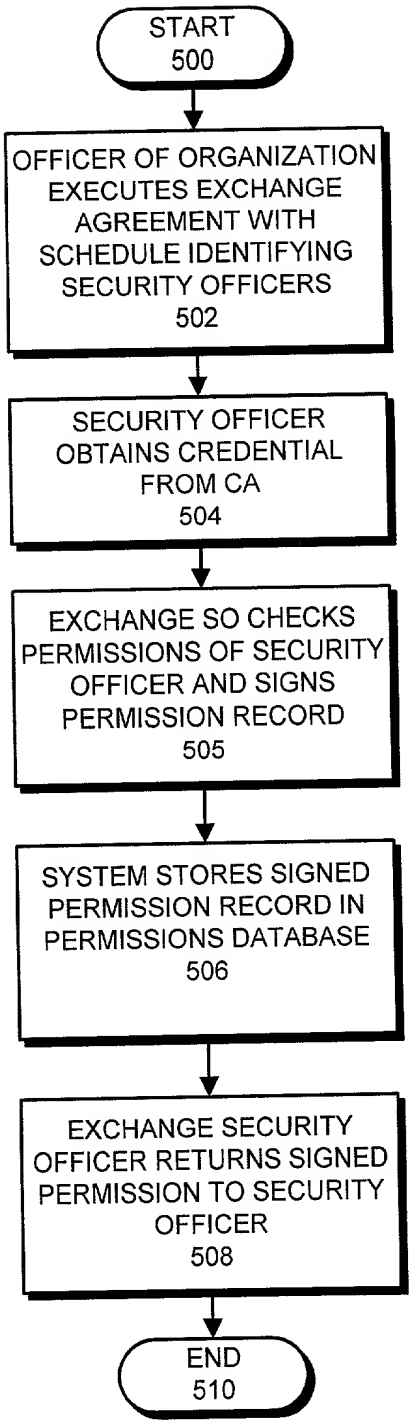
START
500
OFFICER OF ORGANIZATION EXECUTES EXCHANGE AGREEMENT WITH SCHEDULE IDENTIFYING SECURITY OFFICERS
502
SECURITY OFFICER OBTAINS CREDENTIAL FROM CA
504
EXCHANGE SO CHECKS PERMISSIONS OF SECURITY OFFICER AND SIGNS PERMISSION RECORD
505
SYSTEM STORES SIGNED PERMISSION RECORD IN PERMISSIONS DATABASE
506
EXCHANGE SECURITY OFFICER RETURNS SIGNED PERMISSION TO SECURITY OFFICER
508
END
510

FIG. 5B

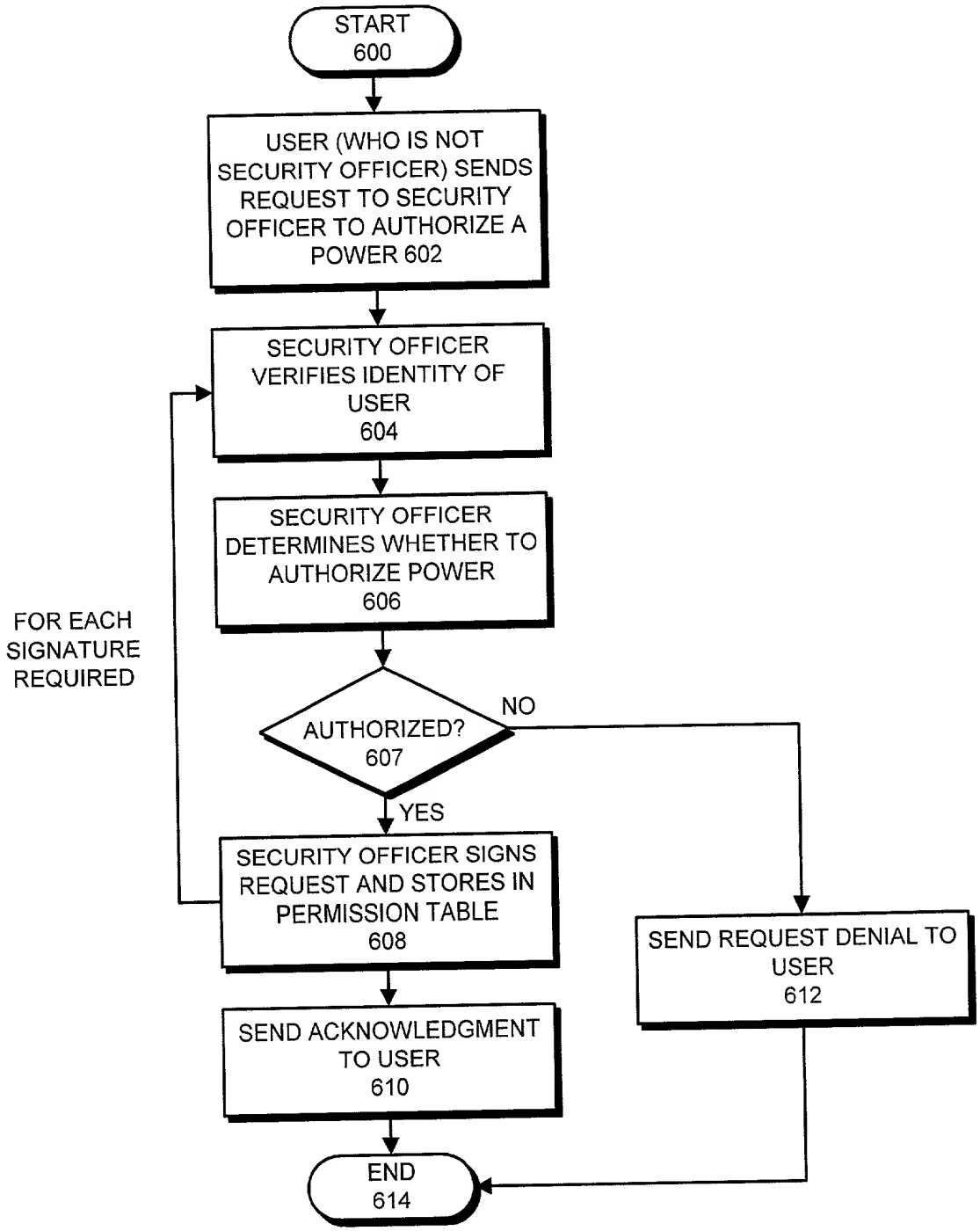
START
600
USER (WHO IS NOT SECURITY OFFICER) SENDS REQUEST TO SECURITY OFFICER TO AUTHORIZE A POWER 602
SECURITY OFFICER VERIFIES IDENTITY OF USER
604
SECURITY OFFICER DETERMINES WHETHER TO AUTHORIZE POWER
606
FOR EACH SIGNATURE REQUIRED
AUTHORIZED?
607
NO
YES
SECURITY OFFICER SIGNS REQUEST AND STORES IN PERMISSION TABLE
608
SEND REQUEST DENIAL TO USER
612
SEND ACKNOWLEDGMENT TO USER
610
END
614

FIG. 6

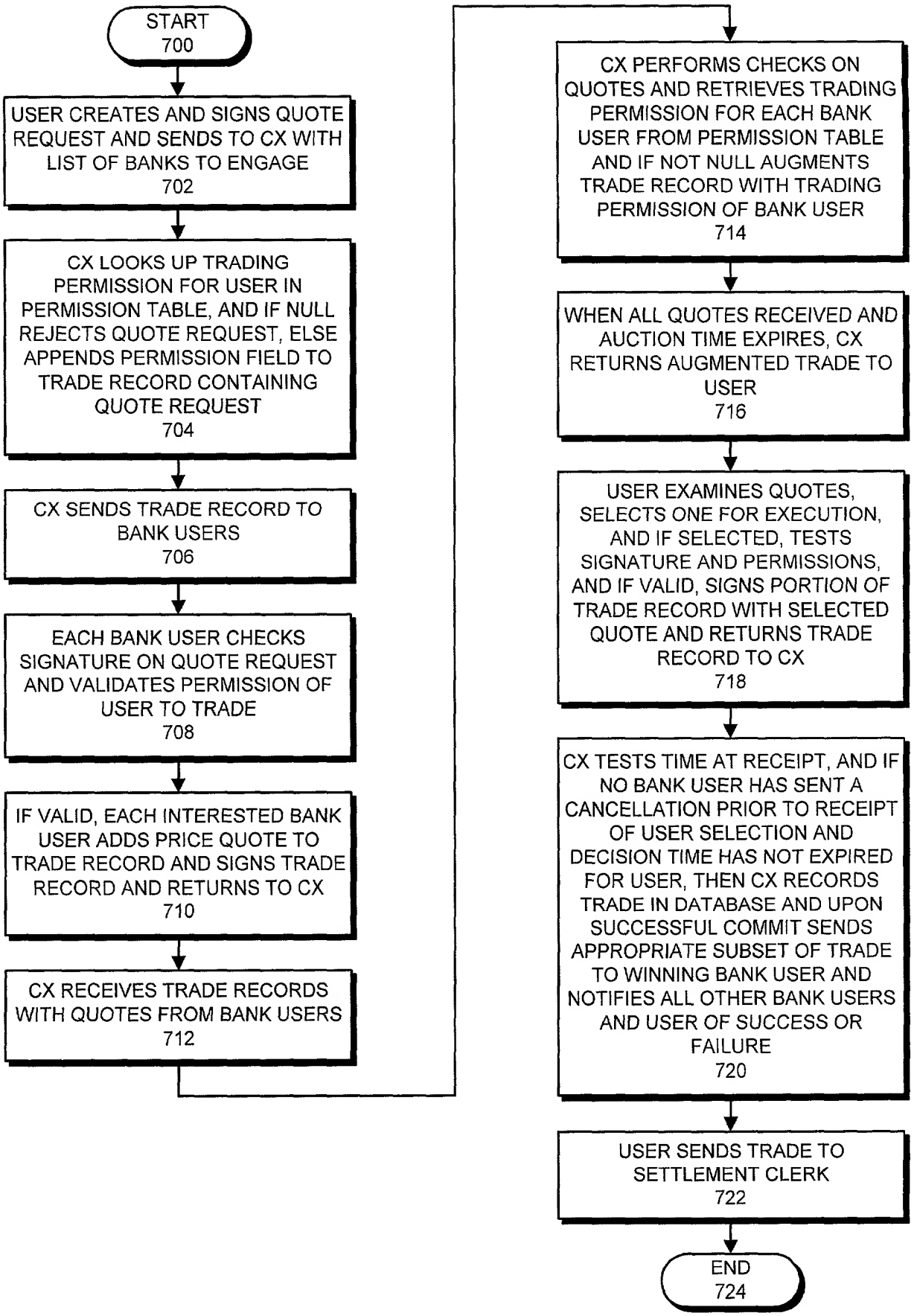
START
700
USER CREATES AND SIGNS QUOTE REQUEST AND SENDS TO CX WITH LIST OF BANKS TO ENGAGE
702
CX LOOKS UP TRADING PERMISSION FOR USER IN PERMISSION TABLE, AND IF NULL REJECTS QUOTE REQUEST, ELSE APPENDS PERMISSION FIELD TO TRADE RECORD CONTAINING QUOTE REQUEST
704
CX SENDS TRADE RECORD TO BANK USERS
706
EACH BANK USER CHECKS SIGNATURE ON QUOTE REQUEST AND VALIDATES PERMISSION OF USER TO TRADE
708
IF VALID, EACH INTERESTED BANK USER ADDS PRICE QUOTE TO TRADE RECORD AND SIGNS TRADE RECORD AND RETURNS TO CX
710
CX RECEIVES TRADE RECORDS WITH QUOTES FROM BANK USERS
712
CX PERFORMS CHECKS ON QUOTES AND RETRIEVES TRADING PERMISSION FOR EACH BANK USER FROM PERMISSION TABLE AND IF NOT NULL AUGMENTS TRADE RECORD WITH TRADING PERMISSION OF BANK USER
714
WHEN ALL QUOTES RECEIVED AND AUCTION TIME EXPIRES, CX RETURNS AUGMENTED TRADE TO USER
716
USER EXAMINES QUOTES, SELECTS ONE FOR EXECUTION, AND IF SELECTED, TESTS SIGNATURE AND PERMISSIONS, AND IF VALID, SIGNS PORTION OF TRADE RECORD WITH SELECTED QUOTE AND RETURNS TRADE RECORD TO CX
718
CX TESTS TIME AT RECEIPT, AND IF NO BANK USER HAS SENT A CANCELLATION PRIOR TO RECEIPT OF USER SELECTION AND DECISION TIME HAS NOT EXPIRED FOR USER, THEN CX RECORDS TRADE IN DATABASE AND UPON SUCCESSFUL COMMIT SENDS APPROPRIATE SUBSET OF TRADE TO WINNING BANK USER AND NOTIFIES ALL OTHER BANK USERS AND USER OF SUCCESS OR FAILURE
720
USER SENDS TRADE TO SETTLEMENT CLERK
722
END
724

FIG. 7

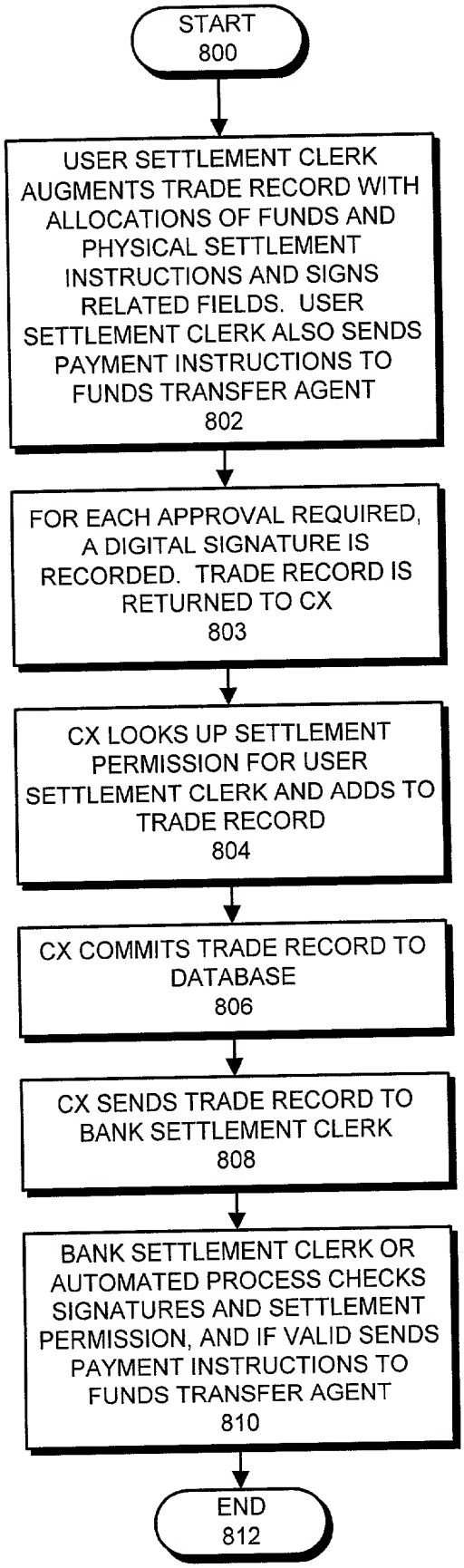
START
800
USER SETTLEMENT CLERK AUGMENTS TRADE RECORD WITH ALLOCATIONS OF FUNDS AND PHYSICAL SETTLEMENT INSTRUCTIONS AND SIGNS RELATED FIELDS. USER SETTLEMENT CLERK ALSO SENDS PAYMENT INSTRUCTIONS TO FUNDS TRANSFER AGENT
802
FOR EACH APPROVAL REQUIRED, A DIGITAL SIGNATURE IS RECORDED. TRADE RECORD IS RETURNED TO CX
803
CX LOOKS UP SETTLEMENT PERMISSION FOR USER SETTLEMENT CLERK AND ADDS TO TRADE RECORD
804
CX COMMITS TRADE RECORD TO DATABASE
806
CX SENDS TRADE RECORD TO BANK SETTLEMENT CLERK
808
BANK SETTLEMENT CLERK OR AUTOMATED PROCESS CHECKS SIGNATURES AND SETTLEMENT PERMISSION, AND IF VALID SENDS PAYMENT INSTRUCTIONS TO FUNDS TRANSFER AGENT
810
END
812

FIG. 8

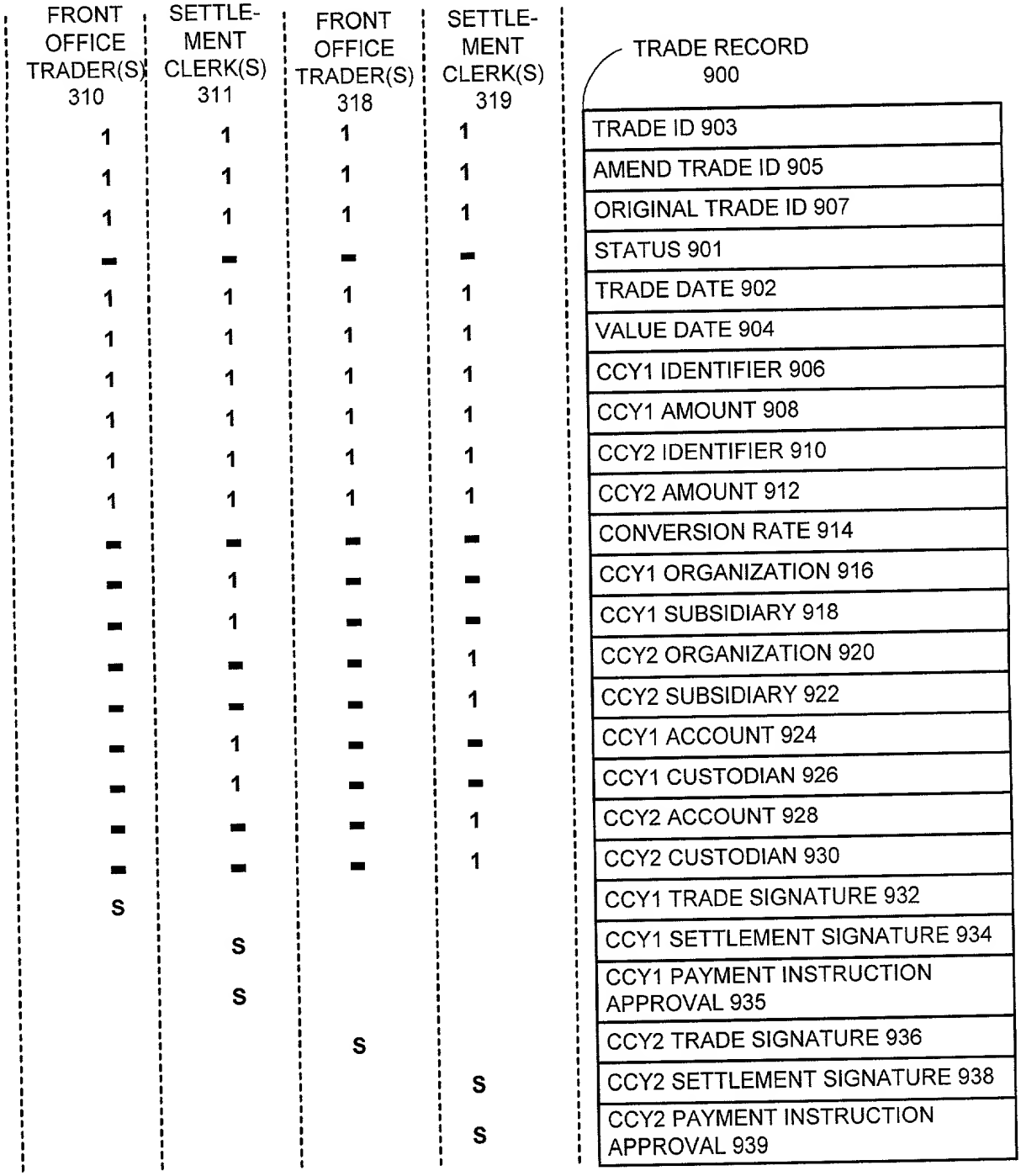
FRONT OFFICE TRADER(S) 310
SETTLE-MENT CLERK(S) 311
FRONT OFFICE TRADER(S) 318
SETTLE-MENT CLERK(S) 319
TRADE RECORD 900
TRADE ID 903
AMEND TRADE ID 905
ORIGINAL TRADE ID 907
STATUS 901
TRADE DATE 902
VALUE DATE 904
CCY1 IDENTIFIER 906
CCY1 AMOUNT 908
CCY2 IDENTIFIER 910
CCY2 AMOUNT 912
CONVERSION RATE 914
CCY1 ORGANIZATION 916
CCY1 SUBSIDIARY 918
CCY2 ORGANIZATION 920
CCY2 SUBSIDIARY 922
CCY1 ACCOUNT 924
CCY1 CUSTODIAN 926
CCY2 ACCOUNT 928
CCY2 CUSTODIAN 930
CCY1 TRADE SIGNATURE 932
CCY1 SETTLEMENT SIGNATURE 934
CCY1 PAYMENT INSTRUCTION APPROVAL 935
CCY2 TRADE SIGNATURE 936
CCY2 SETTLEMENT SIGNATURE 938
CCY2 PAYMENT INSTRUCTION APPROVAL 939

FIG. 9

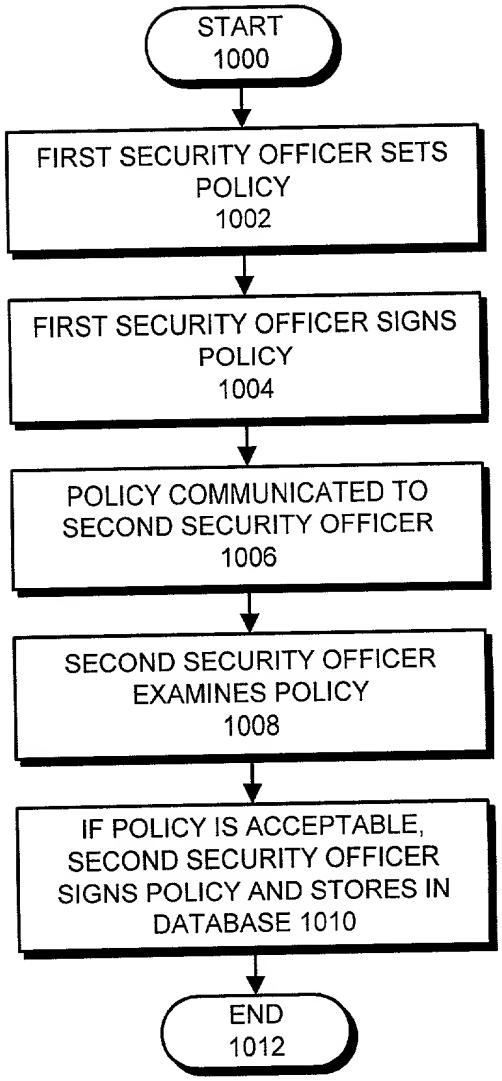
START
1000
FIRST SECURITY OFFICER SETS POLICY
1002
FIRST SECURITY OFFICER SIGNS POLICY
1004
POLICY COMMUNICATED TO SECOND SECURITY OFFICER
1006
SECOND SECURITY OFFICER EXAMINES POLICY
1008
IF POLICY IS ACCEPTABLE, SECOND SECURITY OFFICER SIGNS POLICY AND STORES IN DATABASE 1010
END
1012

FIG. 10

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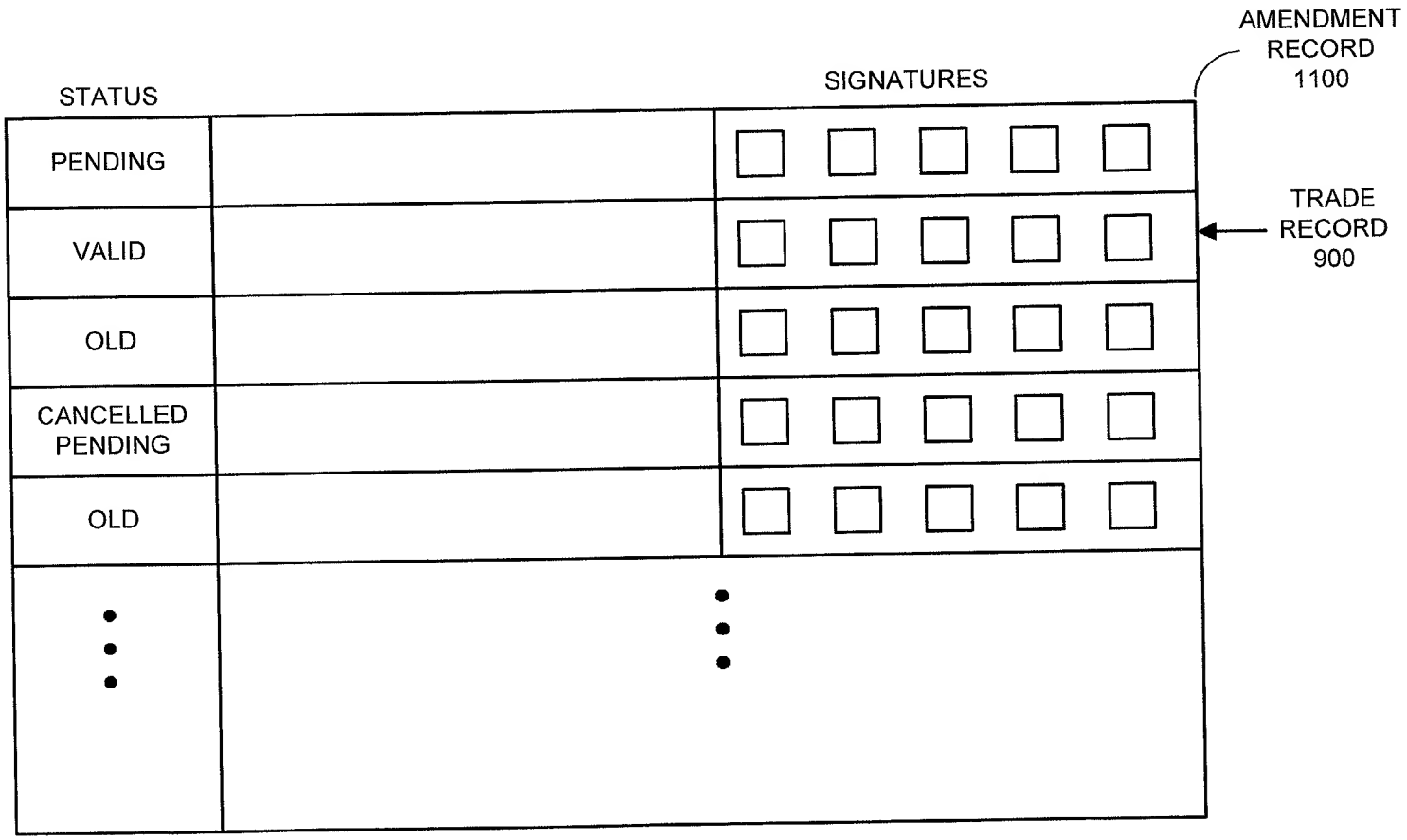

FIG. 11

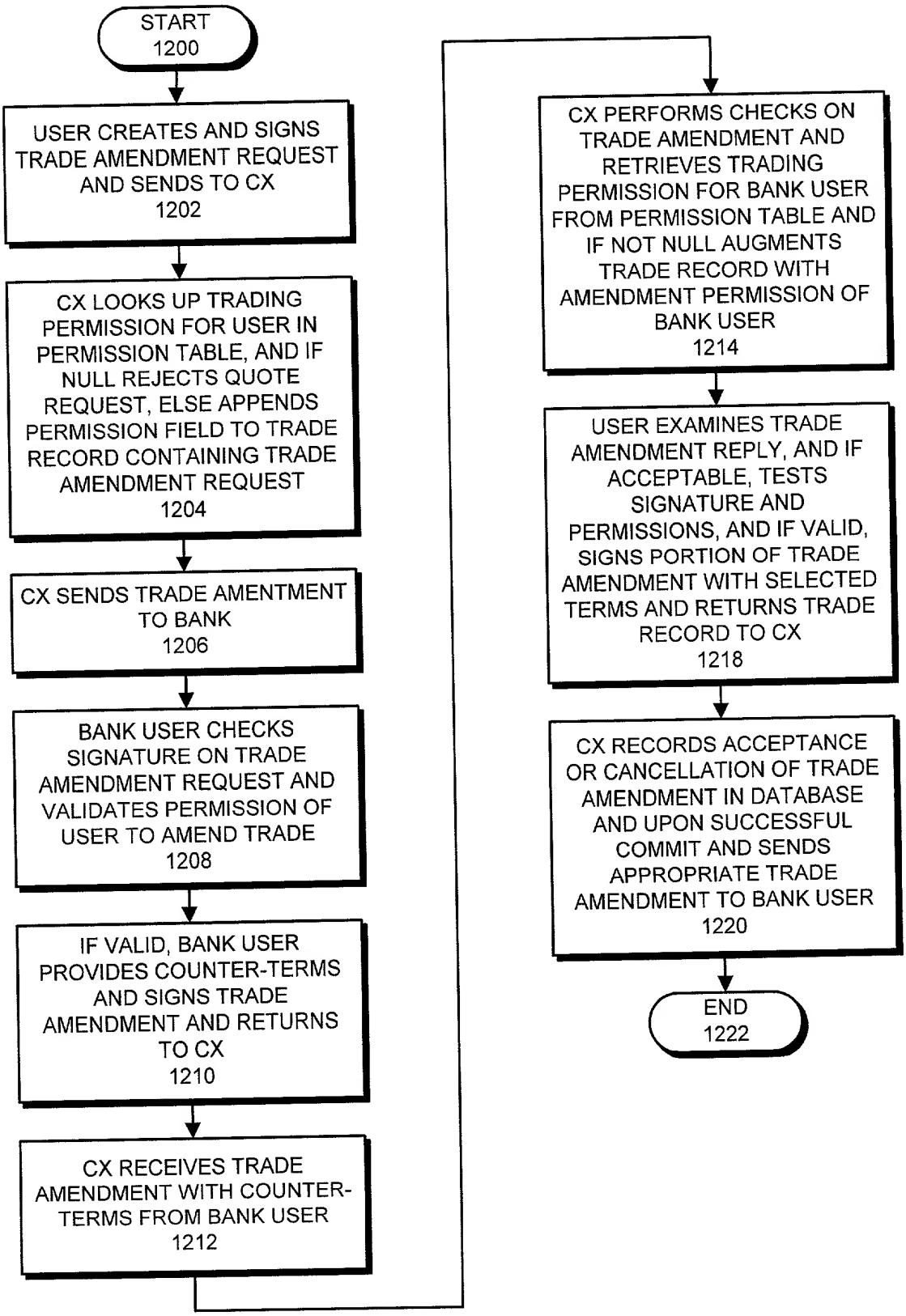
START
1200
USER CREATES AND SIGNS TRADE AMENDMENT REQUEST AND SENDS TO CX
1202
CX LOOKS UP TRADING PERMISSION FOR USER IN PERMISSION TABLE, AND IF NULL REJECTS QUOTE REQUEST, ELSE APPENDS PERMISSION FIELD TO TRADE RECORD CONTAINING TRADE AMENDMENT REQUEST
1204
CX SENDS TRADE AMENTMENT TO BANK
1206
BANK USER CHECKS SIGNATURE ON TRADE AMENDMENT REQUEST AND VALIDATES PERMISSION OF USER TO AMEND TRADE
1208
IF VALID, BANK USER PROVIDES COUNTER-TERMS AND SIGNS TRADE AMENDMENT AND RETURNS TO CX
1210
CX RECEIVES TRADE AMENDMENT WITH COUNTER-TERMS FROM BANK USER
1212
CX PERFORMS CHECKS ON TRADE AMENDMENT AND RETRIEVES TRADING PERMISSION FOR BANK USER FROM PERMISSION TABLE AND IF NOT NULL AUGMENTS TRADE RECORD WITH AMENDMENT PERMISSION OF BANK USER
1214
USER EXAMINES TRADE AMENDMENT REPLY, AND IF ACCEPTABLE, TESTS SIGNATURE AND PERMISSIONS, AND IF VALID, SIGNS PORTION OF TRADE AMENDMENT WITH SELECTED TERMS AND RETURNS TRADE RECORD TO CX
1218
CX RECORDS ACCEPTANCE OR CANCELLATION OF TRADE AMENDMENT IN DATABASE AND UPON SUCCESSFUL COMMIT AND SENDS APPROPRIATE TRADE AMENDMENT TO BANK USER
1220
END
1222

FIG. 12